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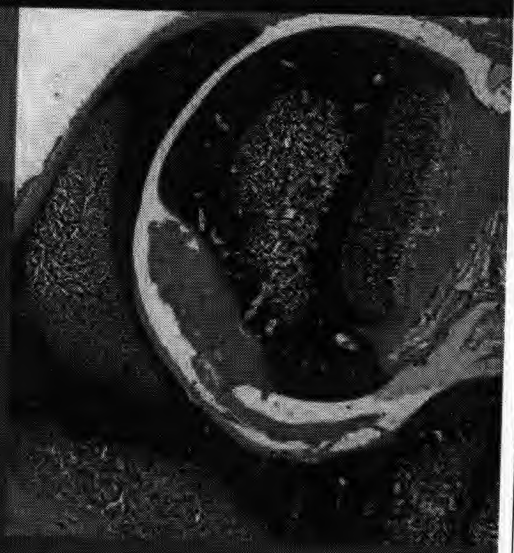

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Guest Editors:
Monika Egerbacher
Hanna Schöpper

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113 - The effect of a probiotic on broilers' kidney morphology in T-2 mycotoxicosis

Florina Popovska-Percinic[1], Aleksandar Dodovski[1], Lazo Pendovski[1], Trpe Ristoski[1], Verica Miloševič[2], Monika Dovenska[1], V. Ajdžanovič[2] and Katerina Blagoevska[1]*

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Introduction: It was noticed that T-2 mycotoxin elicits toxic effects upon kidney's morphology. Nowadays, the use of different dietary additives capable of reducing mycotoxin absorption in the animal's gut is investigated. Therefore, the aim of this study was to examine the effect of probiotic *Enterococcus faecium DSM* 7134 on broiler's kidney morphology in experimentally induced T-2 mycotoxicosis.

Materials and Methods: Eighty day-old broilers were divided into four groups: control (C); T-2 (T2); probiotic (P) and probiotic with T-2 (P+T2). The 0.250 mg toxin/bird/day was given to chicks for three consecutive days, starting from day 4. The probiotic was administered in drinking water in quantity of 0.2 g/l and in concentration of $3{,}3x10^9$ *cfu* from the first day of the experiment. 24 hours after the last toxin application, kidneys were fixed in buffered 10% formalin, embedded in paraffin, serially cut at 5 μm and stained with H&E.

Results: A significant decrease of the body weight by 31.4% and 7.7% and an increase by 13.3% was registered in T2, P+T2 and P group respectively, compared to the control group. The significant decrease of kidneys' absolute weight in T2 group was evidenced. Morphological analyses of T2 group showed thickening of the Bowman's membrane, mononuclear cell infiltration in kidney's glomeruli, parenchymatous degeneration of the proximal tubular epithelium and an interstitial nephritis in the medullary regions. In the P group, no significant changes in the kidneys' morphology were registered. In the P+T2 group, a reversible parenchymal degeneration with increased epithelial tubular cells was evidenced, while all other changes observed in the T2 group were absent.

Conclusion: The obtained results indicate the potential attenuating effect of the used probiotic upon the kidney's morphological changes in T-2 mycotoxicosis.

The experimental protocol was approved by the Local Ethical Committee in conformity with the recommendation provided in the European Convention for the Protection of Vertebrate Animals used for Experimental and Other Scientific Purposes (ETS no. 123, Appendix A) (No. 03-7534 from 12.04.2013).

114 - The osteointegration of Ti-6Al-7Nb bone implants in sheep model- *in vivo* study

Dominik Poradowski[1], Zbigniew Rybak[2], Maciej Dobrzyński[3], Karol Kirstein[1], Aleksandra Skalec[1], Maciej Janeczek[1] and Aleksander Chrószcz[1]*

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Introduction: Contemporary medicine and veterinary medicine commonly use various types of implants which replace damaged osteo-articular structures. There is a great number of implants produced using various construction materials fulfilling specific requirements. Among numerous metallic materials, there are austenitic steels CO-Cr alloys, Ni-Cr alloys and titanium alloys. Currently, orthopedic implants are manufactured using stainless steel and CO-Cr, however titanium and its alloys exhibit the most appropriate characteristic for biomedical application.

Materials and Methods: Ten anatomically mature Merino sheep were used in the study. Animals were sedated (xylazine 0.1 mg/kg i.m.) and general anaesthesia was induced (ketamine 0,6 mg/kg i.v.) and maintained (propofol 4 mg/kg i.v.). Trochanter major of the left pelvic limb was surgically exposed and a niche was created with a drilling device. Titanium-niobum (Ti-6Al-7Nb) openwork implants produced with 3D printer were placed in prepared niches. Muscles were sutured and skin was closed. Radiological examination was performed after 3 and 6 weeks. After 6 weeks of observation, animals were euthanized (i.v. pentobarbital in a dose 200 mg/kg b.w.) and samples were collected for histological investigation using hematoxylin-eosin and Masson-Goldner stainings.

Results: The results showed correct process of osteointegration. The migration of bone tissue cells into openwork structure of the implant was observed. The hyperplasia of connective tissue was not seen. The X-ray examination proved proper implant location and normal healing process.

Conclusion: The tested material shows good biocompatible properties and can be used for further analysis for commercialization.

All husbandry and experimental procedures were approved by the II Local Ethics Committee of Wroclaw University of Environmental and Life Sciences, Poland no. 10/2013.

